



#5 0300

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT TRANSMITTAL FORM

Applicants: Deninger et al.

Serial No.: 09/758,006

Filed: January 10, 2001

For: Element, Device and Procedure for Highly Effective Production of Nuclear Spin Polarized ^3He at High Polarization

Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

Attorney Docket No.: 608.0006USU

COMMISSIONER FOR PATENTS
Washington, D.C. 20231

Dear Sir:

Transmitted herewith is:

1. Information Disclosure Statement;
2. PTO Form 1449 with copies of U.S. and Foreign patents and publications;
3. Transmittal letter in duplicate; and
4. Postcard.

Please charge any additional fees or credit any such fees, if necessary to Deposit Account No. 01-0467 in the name of Ohlandt, Greeley, Ruggiero & Perle. A duplicate copy of this sheet is attached.

Respectfully submitted,



Charles N.J. Ruggiero Esq.

Reg. No. 28,468

Ohlandt, Greeley, Ruggiero & Perle, L.L.P.
One Landmark Square, 10th Floor
Stamford, Connecticut 06901-2682
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Date: May 1, 2001

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231, ON May 1, 2001.

Heather A. Fiorella
NAME


SIGNATURE

05/01/01
DATE



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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In accordance with applicants' duty of disclosure under 37 C.F.R. §1.56, we are enclosing form PTO-1449 listing information that may be material to the patentability of this application, filed January 10, 2001.

It is the applicants' belief that none of the citations describe that which is claimed in the present invention.

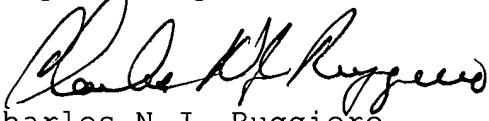
It should be understood that attention has been called to

the citations that have been deemed to be pertinent to the claimed present invention. In concluding what was pertinent, the criteria employed was considered most appropriate in light of the invention shown in the present application. However, the Examiner or others may deem some other criteria to be just as appropriate or more appropriate. Therefore, the Examiner is respectfully urged to review the listed citations and to make the usual careful independent search for other prior art that may be pertinent.

Since this Information Disclosure Statement is being filed before the first office action has been received, no petition or fee is required.

Applicants respectfully request favorable consideration and that this application be passed to allowance.

Respectfully submitted,


Charles N.J. Ruggiero
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MAY 03 2001

Sheet 1 of 4

FORM PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)		Docket Number (Optional) 608.0006USU	Application Number 09/758,006
		Applicant Anselm Deninger et al.	
		Filing Date January 10, 2001	Group Art Unit Not Yet Assigned

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,545,396	8/13/96	Albert et al.	424	93	
	5,557,199	9/17/96	Bowman et al.	324	301	
	5,612,103	3/18/97	Driehuys et al.	428	34.7	
	5,617,860	4/8/97	Chupp et al.	128	653.4	
	5,642,625	7/1/97	Cates, Jr. et al.	62	55.5	
	5,789,921	8/4/98	Albert et al.	324	300	
	5,785,953	7/28/98	Albert et al.	424	93	
	5,809,801	9/22/98	Cates, Jr. et al.	62	637	
	5,860,295	1/19/99	Cates, Jr. et al.	62	637	

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
	19927773.7	8/29/68	Germany				No
	WO95/27438	10/19/95	PCT			Yes	
	WO97/37239	10/9/97	PCT			Yes	
	WO96/40585	12/19/96	PCT			Yes	
	WO96/39912	12/19/96	PCT			Yes	

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	“Determination of the Neutron Electric Form Factor from the Reaction ^3He (e, \bar{e} n) at Medium Momentum Transfer” The European Physical Journal A 6, pp.329-344, 1999.
	“Measurement of the Neutron Electric Form Factor G_{en} at 0.67 (GeV/c) 2 via ^3He (e, e n)”, Physical Review Letters, Volume 83, Number 21, pps. 4257-4260, November 22, 1999.
	“ ^3He Neutron Spin-Filter”, W. Heil et al., Physica B, pp. 328-335, 1999.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP §609; Draw line through Citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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FORM PTO-1449

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)

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Applicant

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						YES	NO

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	“Nuclear Magnetic Resonance Imaging of Airways in Humans with Use of Hyperpolarized ³ He”, Bachert et al., Magnetic Resonance in Medicine, pp. 192-196, 1996.
	“Nuclear Magnetic Resonance Imaging with Hyperpolarised Helium-3”, Ebert et al., The Lancet, Vol. 347, No. 9011, pp. 1297-1299, May 11, 1996.
	“MRI using Hyperpolarized Noble Gases”, Kauczor et al, European Radiology 8, pp. 820-827, 1998.
	“MR Imaging and Spectroscopy of the Human Chest Using Polarized ¹²⁹ Xe Gas”, Mugler et al., Draft document, Department of Radiology and Biomedical Engineering (University of Virginia Health Sciences Center) & Department of Physics (Princeton University), pp. 1-17, October 2, 1996.
	“Ultrafast MR-Imaging of Lung Ventilation Using Hyperpolarized Helium-3”, Schreiber et al.
	“Quantification of Regional Intrapulmonary Oxygen Partial Pressure Evolution During Apnea by ³ He MRI”, Deninger et al., Journal of Magnetic Resonance 141, pps. 207-216, 1999.
	“Nuclear Spin-Lattice Relaxation in the presence of Magnetic-Field Gradients”, Schearer et al., Physical Review, Volume 139, No. 5A, pps. 1398-1403, August 30, 1965.

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OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	“Relaxation of Spins Due to Field Inhomogeneities in Gaseous Samples at Low Magnetic Fields and Low Pressure”, Cates et al., Physical Review A, Volume 37, No. 8, pp. 2877-2855, 1988.
	“Polarization of ³ He Gas by Optical Pumping”, Colegrove et al., Physical Review, Volume 132, No. 6, pp. 2561-2573, 1963.
	“Optical Pumping in ³ He with a Laser”, Nacher et al., Journal De Physique 46, No. 12, pp. 2057-2073, 1985.
	“A Dense Polarized ³ He Target Based on Compression of Optically Pumped Gas”, Eckert et al., Nuclear Instruments & Methods in Physics Research, Section A, pp.53-65, 1992.
	“Accurate Optical Measurement of Nuclear Polarization in Optically Pumped ³ He Gas”, Bigelow et al., Journal de Physique 2, pp. 2159-2179, 1992.
	“NMR Calibration of Optical Measurement of Nuclear Polarization in ³ He”, Lorenzon et al., Physical Review A, Vol. 47, No. 1, pp. 468-479, 1993.
	“Very Long Nuclear Relaxation Times of Spins Polarized Helium 3 in Metal Coated Cells”, Heil et al., Physic Letters A, pp. 337-343, 1995.
	“ ³ He Neutron Spin-Filter”, Heil et al., Physica B, pp. 328-335, 1999.
	“Nuclear Relaxation of ³ He in the Presence of O ₂ ” Saam et al., Physical Review A, Vol. 52, No. 1, pp. 862-865, 1995.
	“Gaseous ³ He- ³ He Magnetic Dipolar Spin Relaxation”, Newbury et al., Physical Review A, Vol. 48, No. 6, pp. 4411-4420, 1993.

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(Use several sheets if necessary)		Filing Date January 10, 2001	Group Art Unit Not Yet Assigned

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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	“Study of Mechanical Compression of Spin-Polarized ³ He Gas”, Becker et al., Nuclear Instruments and Methods in Physics Research A, pp. 45-51, 1994
	“Spatially Resolved Measurements of Hyperpolarized Gas Properties in the Lung <i>in vivo</i> . Part I: Diffusion Coefficient”, Chen et al., Center for <i>In Vino</i> Microscopy, Duke University Medical Center, pp. 1-8, June 24, 1999.
	“Entwicklung und Test eines ³ He-Neutron-Spinfilters”, Reinhard Surkau, Dissertation, August 1995.
	“High-Volume Production of Laser-Polarized ¹²⁹ Xe”, Driehuys et al., Department of Physics, Princeton University, July 8, 1996.
	“RMP Colloquia : Spin-Exchange Optical Pumping of Noble-Gas Nuclei”, Walker et al., Reviews of Modern Physics, Vol. 69, No. 2, pp. 629-641, April 1997.
	“Polarized Helium-3 Production and Transport System”, Hasson et al., Abstract: Magnetic Imaging Technologies, Inc.
	“Realization of a Broad Band Neutron Spin Filter with Compressed, Polarized ³ He Gas”, Surkau et al., Nuclear Instruments and Methods in Physics Research A, pp. 444-450, 1997.
	“Highly Polarized ³ He for Lung-MRI”, Surkau et al., Abstract: Department of Physics, University of D-55099 Mainz, Germany.

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